



SPACE-BASED POSITIONING
NAVIGATION & TIMING
NATIONAL COORDINATION OFFICE

Global Navigation Satellite Systems Progress through Cooperation

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Stockholm, Sweden – October 27, 2009**



GPS is a Critical Component of the Global Information Infrastructure



Satellite Operations



Precision Agriculture



Surveying & Mapping



Aviation



Communications



Power Grids



Disease Control



Trucking & Shipping



Oil Exploration



Fishing & Boating



Personal Navigation



Keys to the Global Success of GPS



- **Program Stability and Performance**
- **Policy Stability and Transparency**
- **Private Sector Entrepreneurship and Investment**



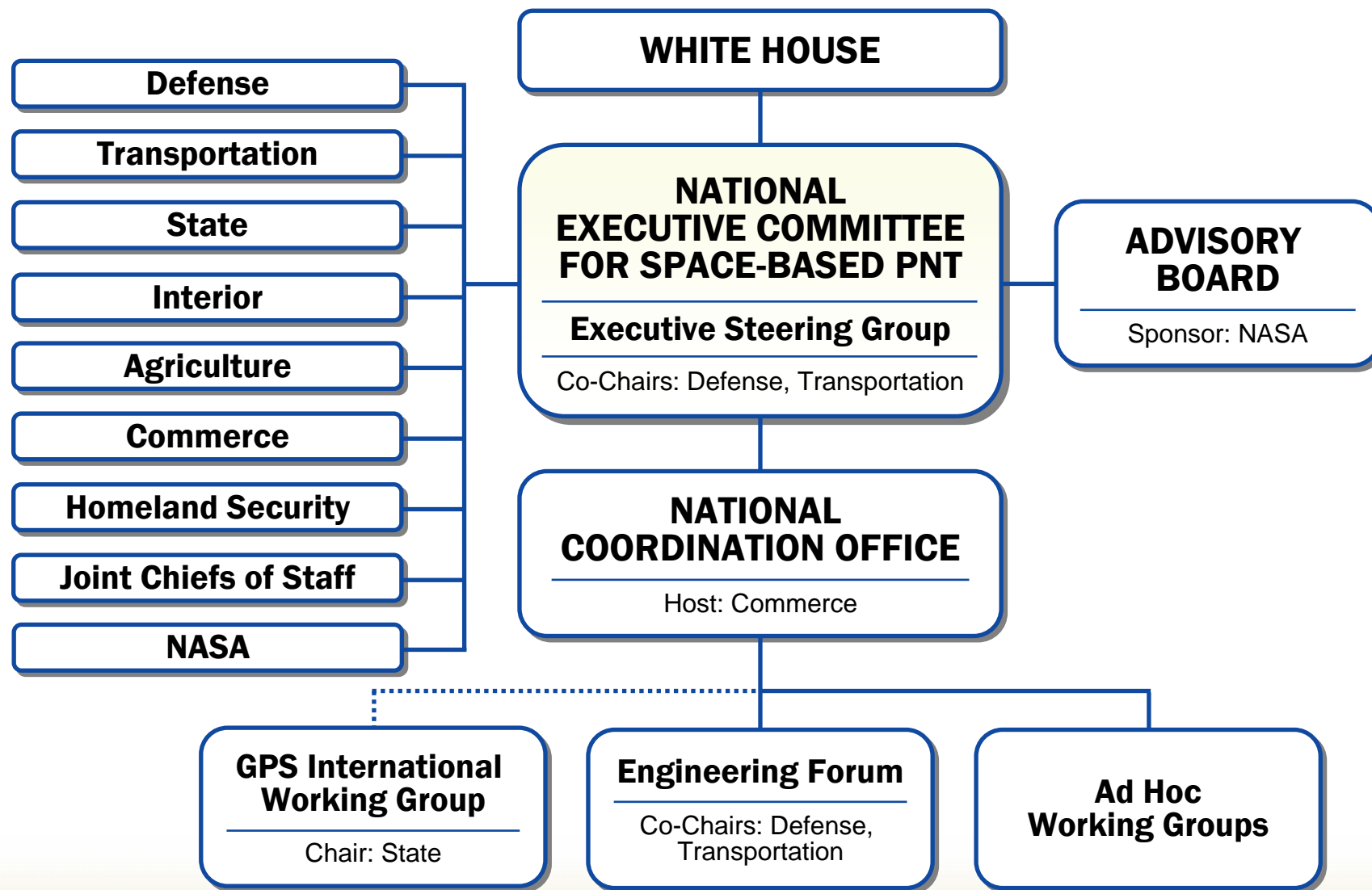
U.S. Policy Promotes Global Use of GPS Technology



- **No direct user fees for civil GPS services**
 - Provided on a continuous, worldwide basis
- **Open, public signal structures for all civil services**
 - Promotes equal access for user equipment manufacturing, applications development, and value-added services
 - Encourages open, market-driven competition
- **Global compatibility and interoperability with GPS**
- **Service improvements for civil, commercial, and scientific users worldwide**
- **Protection of radionavigation spectrum from disruption and interference**



U.S. Space-Based PNT Organization Structure





2009 Leadership & Personnel



- **National Executive Committee Co-Chairs**
 - Deputy Secretary of Defense: William J. Lynn, III
 - Deputy Secretary of Transportation: John D. Porcari
- **National Coordination Office Staff**
 - Director: Vacant
 - Deputy Director: Robert Hessin
 - Defense: Scott Boushell
 - Transportation: Ken Alexander
 - State: Maureen Walker
 - Commerce: Jason Kim, Knute Berstis
 - NASA: Brian Ramsay
 - Homeland Security: John Merrill*
 - Interior and Agriculture: Vacant
 - Contractors: David Vaughn, Steve Sidorek



National Space-Based PNT Advisory Board



- **Conducts assessments and makes recommendations to EXCOM in support of national policy goals and objectives**
- **Twenty members (including five international members)**
 - **Chaired by Dr. James Schlesinger**
 - **Published Final Report on 2007-2008 taskings**
 - **Minutes from May 2009 meeting available online**
- **Next meeting: November 5-6, 2009, in Alexandria, VA**



Recent Accomplishments



- **FY09 Omnibus signed with \$20.7M Civil Funding for GPS**
 - March 2009
- **Launched GPS IIR-20(M) to bring L5 signal into use**
 - March 2009
- **DOT released Civil Monitoring Performance Specification**
 - April 2009
- **Air Force released OCX Request for Proposal**
 - May 2009
- **USTR submitted report to Congress on Galileo market access**
 - July 2009
- **Opened QZSS monitoring station at NOAA site in Guam**
 - August 2009



U.S. Objectives in Working with Other GNSS Service Providers



- **Ensure compatibility — ability of U.S. and non-U.S. space-based PNT services to be used separately or together without interfering with each individual service or signal**
 - Radio frequency compatibility
 - Spectral separation between M-code and other signals
- **Achieve interoperability — ability of civil U.S. and non-U.S. space-based PNT services to be used together to provide the user better capabilities than would be achieved by relying solely on one service or signal**
 - Primary focus on the common L1C and L5 signals
- **Promote a level playing field in the global marketplace**

U.S. pursuing through public sector cooperation, both bilateral and multilateral



International Public Sector Cooperation



- **Bilateral**
 - Europe
 - Russia
 - Japan
 - India
 - Others
- **Multilateral**
 - International Committee on GNSS
 - Asia Pacific Economic Cooperation
 - ICAO, IMO, ITU





U.S.–Europe Cooperation



- **GPS-Galileo cooperation agreement signed in 2004**
- **Four working groups established:**
 - **Compatibility/Interoperability**
 - **Trade**
 - **Next-Generation GNSS**
 - **Security**
- **Improved civil signal (“MBOC”) jointly adopted in 2007**
- **Plenary meeting held Oct 2008**
- **U.S. seeking EC authorization of commercial Galileo simulator sales**





Other U.S. Bilateral Cooperation



- **U.S.–Japan Joint Statement on GPS cooperation signed in 1998**
 - Established foundation for stable policy leading to Japan as a global leader in commercial GPS/GNSS markets
 - Japan’s Quasi Zenith Satellite System (QZSS) designed to be fully compatible and highly interoperable with GPS
 - U.S. working with Japan to set up QZSS monitoring stations in Hawaii and Guam in exchange for data access
- **U.S.–Russia Joint Statement issued in 2004**
 - Negotiations for a U.S.–Russia Agreement on satellite navigation cooperation underway since late 2005
 - Considering new civil CDMA signals to be interoperable with GPS/Galileo
- **U.S.–India Joint Statement on GNSS Cooperation in 2007**
 - Important topic is ionospheric distortion/solutions to this phenomena
 - Technical meetings focused on GPS-IRNSS compatibility and interoperability held in 2008



International Committee on GNSS



- Promotes GNSS use and integration into infrastructures, particularly in developing countries
- Encourages system compatibility, interoperability
- Membership: GNSS providers, international organizations and associations
- Providers Forum
 - United States, Europe, Russia, China, India, Japan
 - Focused discussions on compatibility, interoperability
- Next meeting: May 2010 in Turin, Italy



ICG International Committee on
Global Navigation Satellite Systems



Private Sector Competition



- **U.S. encourages fair private sector competition in GNSS receiver and application markets**
 - Leads to greater innovation, lower costs
- **Fair competition means no preferential treatment for any particular company(s)**
 - Equal (if not open) access to information and markets
- **Freedom of choice desired for end users**
 - Standards and other governmental measures should not effectively mandate use of one GNSS over another
- **U.S. agreements with other GNSS providers include language on fair trade/open markets (non-discriminatory)**



Summary



- **U.S. space-based PNT policy implementation continues to progress**
- **U.S. policy encourages worldwide use of civil GPS and augmentations**
- **Policy stability and transparency improve industry confidence and investment**
- **As new systems emerge globally, public sector cooperation is the key to success for all**
 - **Compatibility, interoperability**
 - **Equal market-driven competition in receivers and applications**



For Additional Information...



GPS.gov

PNT.gov



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